WHAT IS CLAIMED:

1. **A purified nucleic acid molecule encoding a human KDR protein which consists essentially of the nucleotide sequence**

ATGGAGAGCAAGGTGCTGCTGGCCGTCGCCCTGTGGCTCTGCGTGGAGACCCGGGCCGCCTCTGTGGGT
TTGCCTAGTGTTTCTCTTGATCTGCCCAGGCTCAGCATACAAAAAGACATACTTACAATTAAGGCTAAT
ACAACTCTTCAAATTACTTGCAGGGGACAGAGGGACTTGGACTGGCTTTGGCCCAATAATCAGAGTGGC
AGTGAGCAAAGGGTGGAGGTGACTGAGTGCAGCGATGGCCTCTTCTGTAAGACACTCACAATTCCAAAA
GTGATCGGAAATGACACTGGAGCCTACAAGTGCTTCTACCGGGAAACTGACTTGGCCTCGGTCATTTAT
GTCTATGTTCAAGATTACAGATCTCCATTTATTGCTTCTGTTAGTGACCAACATGGAGTCGTGTACATT
ACTGAGAACAAAAACAAAACTGTGGTGATTCCATGTCTCGGGTCCATTTCAAATCTCAACGTGTCACTT
TGTGCAAGATACCCAGAAAAGAGATTTGTTCCTGATGGTAACAGAATTTCCTGGGACAGCAAGAAGGGC
TTTACTATTCCCAGCTACATGATCAGCTATGCTGGCATGGTCTTCTGTGAAGCAAAAATTAATGATGAA
AGTTACCAGTCTATTATGTACATAGTTGTCGTTGTAGGGTATAGGATTTATGATGTGGTTCTGAGTCCG
TCTCATGGAATTGAACTATCTGTTGGAGAAAAGCTTGTCTTAAATTGTACAGCAAGAACTGAACTAAAT
GTGGGGATTGACTTCAACTGGGAATACCCTTCTTCGAAGCATCAGCATAAGAAACTTGTAAACCGAGAC
CTAAAAACCCAGTCTGGGAGTGAGATGAAGAAATTTTTGAGCACCTTAACTATAGATGGTGTAACCCGG
AGTGACCAAGGATTGTACACCTGTGCAGCATCCAGTGGGCTGATGACCAAGAAGAACAGCACATTTGTC
AGGGTCCATGAAAAACCTTTTGTTGCTTTTGGAAGTGGCATGGAATCTCTGGTGGAAGCCACGGTGGGG
GAGCGTGTCAGAATCCCTGCGAAGTACCTTGGTTACCCACCCCCAGAAATAAAATGGTATAAAAATGGA
ATACCCCTTGAGTCCAATCACACAATTAAAGCGGGGCATGTACTGACGATTATGGAAGTGAGTGAAAGA
GACACAGGAAATTACACTGTCATCCTTACCAATCCCATTTCAAAGGAGAAGCAGAGCCATGTGGTCTCT
CTGGTTGTGTATGTCCCACCCCAGATTGGTGAGAAATCTCTAATCTCTCCTGTGGATTCCTACCAGTAC
GGCACCACTCAAACGCTGACATGTACGGTCTATGCCATTCCTCCCCCGCATCACATCCACTGGTATTGG
CAGTTGGAGGAAGAGTGCGCCAACGAGCCCAGCCAAGCTGTCTCAGTGACAAACCCATACCCTTGTGAA
GAATGGAGAAGTGTGGAGGACTTCCAGGGAGGAAATAAAATTGAAGTTAATAAAAATCAATTTGCTCTA
ATTGAAGGAAAAAACAAAACTGTAAGTACCCTTGTTATCCAAGCGGCAAATGTGTCAGCTTTGTACAAA
TGTGAAGCGGTCAACAAAGTCGGGAGAGGAGAGAGGGTGATCTCCTTCCACGTGACCAGGGGTCCTGAA
ATTACTTTGCAACCTGACATGCAGCCCACTGAGCAGGAGAGCGTGTCTTTGTGGTGCACTGCAGACAGA
TCTACGTTTGAGAACCTCACATGGTACAAGCTTGGCCCACAGCCTCTGCCAATCCATGTGGGAGAGTTG
CCCACACCTGTTTGCAAGAACTTGGATACTCTTTGGAAATTGAATGCCACCATGTTCTCTAATAGCACA
AATGACATTTTGATCATGGAGCTTAAGAATGCATCCTTGCAGGACCAAGGAGACTATGTCTGCCTTGCT
CAAGACAGGAAGACCAAGAAAAGACATTGCGTGGTCAGGCAGCTCACAGTCCTAGAGCGTGTGGCACCC
ACGATCACAGGAAACCTGGAGAATCAGACGACAAGTATTGGGGAAAGCATCGAAGTCTCATGCACGGCA
TCTGGGAATCCCCCTCCACAGATCATGTGGTTTAAAGATAATGAGACCCTTGTAGAAGACTCAGGCATT
GTATTGAAGGATGGGAACCGGAACCTCACTATCCGCAGAGTGAGGAAGGAGGACGAAGGCCTCTACACC

TGCCAGGCATGCAGTGTTCTTGGCTGTGCAAAAGTGGAGGCATTTTTCATAATAGAAGGTGCCCAGGAA
AAGACGAACTTGGAAATCATTATTCTAGTAGGCACGGCGGTGATTGCCATGTTCTTCTGGCTACTTCTT
GTCATCATCCTACGGACCGTTAAGCGGGCCAATGGAGGGGAACTGAAGACAGGCTACTTGTCCATCGTC
ATGGATCCAGATGAACTCCCATTGGATGAACATTGTGAACGACTGCCTTATGATGCCAGCAAATGGGAA
TTCCCCAGAGACCGGCTGAAGCTAGGTAAGCCTCTTGGCCGTGGTGCCTTTGGCCAAGTGATTGAAGCA
GATGCCTTTGGAATTGACAAGACAGCAACTTGCAGGACAGTAGCAGTCAAAATGTTGAAAGAAGGAGCA
ACACACAGTGAGCATCGAGCTCTCATGTCTGAACTCAAGATCCTCATTCATATTGGTCACCATCTCAAT
GTGGTCAACCTTCTAGGTGCCTGTACCAAGCCAGGAGGGCCACTCATGGTGATTGTGGAATTCTGCAAA
TTTGGAAACCTGTCCACTTACCTGAGGAGCAAGAGAAATGAATTTGTCCCCTACAAGACCAAAGGGGCA
CGATTCCGTCAAGGGAAAGACTACGTTGGAGCAATCCCTGTGGATCTGAAACGGCGCTTGGACAGCATC
ACCAGTAGCCAGAGCTCAGCCAGCTCTGGATTTGTGGAGGAGAAGTCCCTCAGTGATGTAGAAGAAGAG
GAAGCTCCTGAAGATCTGTATAAGGACTTCCTGACCTTGGAGCATCTCATCTGTTACAGCTTCCAAGTG
GCTAAGGGCATGGAGTTCTTGGCATCGCGAAAGTGTATCCACAGGGACCTGGCGGCACGAAATATCCTC
TTATCGGAGAAGAACGTGGTTAAAATCTGTGACTTTGGCTTGGCCCGGGATATTTATAAAGATCCAGAT
TATGTCAGAAAAGGAGATGCTCGCCTCCCTTTGAAATGGATGGCCCCAGAAACAATTTTTGACAGAGTG
TACACAATCCAGAGTGACGTCTGGTCTTTTGGTGTTTTGCTGTGGAAATATTTTCCTTAGGTGCTTCT
CCATATCCTGGGGTAAAGATTGATGAAGAATTTTGTAGGCGATTGAAAGAAGGAACTAGAATGAGGGCC
CCTGATTATACTACACCAGAAATGTACCAGACCATGCTGGACTGCTGGCACGGGGAGCCCAGTCAGAGA
CCCACGTTTTCAGAGTTGGTGGAACATTTGGGAAATCTCTTGCAAGCTAATGCTCAGCAGGATGGCAAA
GACTACATTGTTCTTCCGATATCAGAGACTTTGAGCATGGAAGAGGATTCTGGACTCTCTCTGCCTACC
TCACCTGTTTCCTGTATGGAGGAGGAGGAAGTATGTGACCCCAAATTCCATTATGACAACACAGCAGGA
ATCAGTCAGTATCTGCAGAACAGTAAGCGAAAGAGCCGGCCTGTGAGTGTAAAAACATTTGAAGATATC
CCGTTAGAAGAACCAGAAGTAAAAGTAATCCCAGATGACAACCAGACGGACAGTGGTATGGTTCTTGCC
TCAGAAGAGCTGAAAACTTTGGAAGACAGAACCAAATTATCTCCATCTTTTGGTGGAATGGTGCCCAGC
AAAAGCAGGGAGTCTGTGGCATCTGAAGGCTCAAACCAGACAAGCGGCTACCAGTCCGGATATCACTCC
GATGACACAGACACCACCGTGTACTCCAGTGAGGAAGCAGAACTTTTAAAGCTGATAGAGATTGGAGTG
CAAACCGGTAGCACAGCCCAGATTCTCCAGCCTGACTCGGGGACCACACTGAGCTCTCCTCCTGTTTAA
(SEQ ID NO:1), **wherein said nucleic acid molecule encodes a human KDR protein or biologically active form thereof where at least amino acid residues selected from the group consisting of Val at position 848, Glu at position 498, Ala at position 772, Arg at position 787, Lys at position 835 and Ser at position 1347 are present in said protein.**

2. A purified DNA molecule encoding human KDR wherein said DNA molecule encodes a protein consisting essentially of the amino acid sequence:

MESKVLLAVALWLCVETRAASVGLPSVSLDLPRLSIQKDILTIKANTTLQITCRGQRDLDWLWPNNQSG
SEQRVEVTECSDGLFCKTLTIPKVIGNDTGAYKCFYRETDLASVIYVYVQDYRSPFIASVSDQHGVVYI
TENKNKTVVIPCLGSISNLNVSLCARYPEKRFVPDGNRISWDSKKGFTIPSYMISYAGMVFCEAKINDE
SYQSIMYIVVVVGYRIYDVVLSPSHGIELSVGEKLVLNCTARTELNVGIDFNWEYPSSKHQHKKLVNRD
LKTQSGSEMKKFLSTLTIDGVTRSDQGLYTCAASSGLMTKKNSTFVRVHEKPFVAFGSGMESLVEATVG
ERVRIPAKYLGYPPPEIKWYKNGIPLESNHTIKAGHVLTIMEVSERDTGNYTVILTNPISKEKQSHVVS
LVVYVPPQIGEKSLISPVDSYQYGTTQTLTCTVYAIPPPHHIHWYWQLEEECANEPSQAVSVTNPYPCE
EWRSVEDFQGGNKIEVNKNQFALIEGKNKTVSTLVIQAANVSALYKCEAVNKVGRGERVISFHVTRGPE
ITLQPDMQPTEQESVSLWCTADRSTFENLTWYKLGPQPLPIHVGELPTPVCKNLDTLWKLNATMFSNST
NDILIMELKNASLQDQGDYVCLAQDRKTKKRHCVVRQLTVLERVAPTITGNLENQTTSIGESIEVSCTA
SGNPPPQIMWFKDNETLVEDSGIVLKDGNRNLTIRRVRKEDEGLYTCQACSVLGCAKVEAFFIIEGAQE
KTNLEIIILVGTAVIAMFFWLLLVIILRTVKRANGGELKTGYLSIVMDPDELPLDEHCERLPYDASKWE
FPRDRLKLGKPLGRGAFGQVIEADAFGIDKTATCRTVAVKMLKEGATHSEHRALMSELKILIHIGHHLN
VVNLLGACTKPGGPLMVIVEFCKFGNLSTYLRSKRNEFVPYKTKGARFRQGKDYVGAIPVDLKRRLDSI
TSSQSSASSGFVEEKSLSDVEEEEAPEDLYKDFLTLEHLICYSFQVAKGMEFLASRKCIHRDLAARNIL
LSEKNVVKICDFGLARDIYKDPDYVRKGDARLPLKWMAPETIFDRVYTIQSDVWSFGVLLWEIFSLGAS
PYPGVKIDEEFCRRLKEGTRMRAPDYTTPEMYQTMLDCWHGEPSQRPTFSELVEHLGNLLQANAQQDGK
DYIVLPISETLSMEEDSGLSLPTSPVSCMEEEEVCDPKFHYDNTAGISQYLQNSKRKSRPVSVKTFEDI
PLEEPEVKVIPDDNQTDSGMVLASEELKTLEDRTKLSPSFGGMVPSKSRESVASEGSNQTSGYQSGYHS
DDTDTTVYSSEEAELLKLIEIGVQTGSTAQILQPDSGTTLSSPPV, **as set forth in a three-letter abbreviation in SEQ ID NO:2 and containing amino acid residues selected from the group consisting of Val at position 848, Glu at position 498, Ala at position 772, Arg at position 787, Lys at position 835 and Ser at position 1347.**

3. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 1.

4. An expression vector of claim 3 which is a eukaryotic expression vector.

5. An expression vector of claim 3 which is a prokaryotic expression vector.

6. A host cell which expresses a recombinant human KDR protein wherein said host cell contains the expression vector of claim 3.

7. A host cell which expresses a recombinant human KDR protein wherein said host cell contains the expression vector of claim 4.

8. A host cell which expresses a recombinant human KDR protein wherein said host cell contains the expression vector of claim 5.

9. A host cell of claim 6 wherein said human KDR protein is overexpressed from said expression vector.

10. A host cell of claim 7 wherein said human KDR protein is overexpressed from said expression vector.

11. A host cell of claim 8 wherein said human KDR protein is overexpressed from said expression vector.

12. A subcellular membrane fraction obtained from the host cell of claim 9 which contains recombinant human KDR protein.

13. A subcellular membrane fraction obtained from the host cell of claim 10 which contains recombinant human KDR protein.

14. A subcellular membrane fraction obtained from the host cell of claim 11 which contains recombinant human KDR protein.

15. A purified DNA molecule which consists of the nucleotide sequence:

ATGGAGAGCAAGGTGCTGCTGGCCGTCGCCCTGTGGCTCTGCGTGGAGACCCGGGCCGCCTCTGTGGGTT
TGCCTAGTGTTTCTCTTGATCTGCCCAGGCTCAGCATACAAAAAGACATACTTACAATTAAGGCTAATAC
AACTCTTCAAATTACTTGCAGGGGACAGAGGGACTTGGACTGGCTTTGGCCCAATAATCAGAGTGGCAGT
GAGCAAAGGGTGGAGGTGACTGAGTGCAGCGATGGCCTCTTCTGTAAGACACTCACAATTCCAAAAGTGA

TCGGAAATGACACTGGAGCCTACAAGTGCTTCTACCGGGAAACTGACTTGGCCTCGGTCATTTATGTCTA
TGTTCAAGATTACAGATCTCCATTTATTGCTTCTGTTAGTGACCAACATGGAGTCGTGTACATTACTGAG
AACAAAAACAAAACTGTGGTGATTCCATGTCTCGGGTCCATTTCAAATCTCAACGTGTCACTTTGTGCAA
GATACCCAGAAAAGAGATTTGTTCCTGATGGTAACAGAATTTCCTGGGACAGCAAGAAGGGCTTTACTAT
TCCCAGCTACATGATCAGCTATGCTGGCATGGTCTTCTGTGAAGCAAAAATTAATGATGAAAGTTACCAG
TCTATTATGTACATAGTTGTCGTTGTAGGGTATAGGATTTATGATGTGGTTCTGAGTCCGTCTCATGGAA
TTGAACTATCTGTTGGAGAAAAGCTTGTCTTAAATTGTACAGCAAGAACTGAACTAAATGTGGGGATTGA
CTTCAACTGGGAATACCCTTCTTCGAAGCATCAGCATAAGAAACTTGTAAACCGAGACCTAAAAACCCAG
TCTGGGAGTGAGATGAAGAAATTTTTGAGCACCTTAACTATAGATGGTGTAACCCGGAGTGACCAAGGAT
TGTACACCTGTGCAGCATCCAGTGGGCTGATGACCAAGAAGAACAGCACATTTGTCAGGGTCCATGAAAA
ACCTTTTGTTGCTTTTGGAAGTGGCATGGAATCTCTGGTGGAAGCCACGGTGGGGGAGCGTGTCAGAATC
CCTGCGAAGTACCTTGGTTACCCACCCCCAGAAATAAAATGGTATAAAAATGGAATACCCCTTGAGTCCA
ATCACACAATTAAAGCGGGGCATGTACTGACGATTATGGAAGTGAGTGAAAGAGACACAGGAAATTACAC
TGTCATCCTTACCAATCCCATTTCAAAGGAGAAGCAGAGCCATGTGGTCTCTCTGGTTGTGTATGTCCCA
CCCCAGATTGGTGAGAAATCTCTAATCTCTCCTGTGGATTCCTACCAGTACGGCACCACTCAAACGCTGA
CATGTACGGTCTATGCCATTCCTCCCCCGCATCACATCCACTGGTATTGGCAGTTGGAGGAAGAGTGCGC
CAACGAGCCCAGCCAAGCTGTCTCAGTGACAAACCCATACCCTTGTGAAGAATGGAGAAGTGTGGAGGAC
TTCCAGGGAGGAAATAAAATTGAAGTTAATAAAAATCAATTTGCTCTAATTGAAGGAAAAAACAAAACTG
TAAGTACCCTTGTTATCCAAGCGGCAAATGTGTCAGCTTTGTACAAATGTGAAGCGGTCAACAAAGTCGG
GAGAGGAGAGAGGGTGATCTCCTTCCACGTGACCAGGGGTCCTGAAATTACTTTGCAACCTGACATGCAG
CCCACTGAGCAGGAGAGCGTGTCTTTGTGGTGCACTGCAGACAGATCTACGTTTGAGAACCTCACATGGT
ACAAGCTTGGCCCACAGCCTCTGCCAATCCATGTGGGAGAGTTGCCCACACCTGTTTGCAAGAACTTGGA
TACTCTTTGGAAATTGAATGCCACCATGTTCTCTAATAGCACAAATGACATTTTGATCATGGAGCTTAAG
AATGCATCCTTGCAGGACCAAGGAGACTATGTCTGCCTTGCTCAAGACAGGAAGACCAAGAAAAGACATT
GCGTGGTCAGGCAGCTCACAGTCCTAGAGCGTGTGGCACCCACGATCACAGGAAACCTGGAGAATCAGAC
GACAAGTATTGGGGAAAGCATCGAAGTCTCATGCACGGCATCTGGGAATCCCCCTCCACAGATCATGTGG
TTTAAAGATAATGAGACCCTTGTAGAAGACTCAGGCATTGTATTGAAGGATGGGAACCGGAACCTCACTA
TCCGCAGAGTGAGGAAGGAGGACGAAGGCCTCTACACCTGCCAGGCATGCAGTGTTCTTGGCTGTGCAAA
AGTGGAGGCATTTTTCATAATAGAAGGTGCCCAGGAAAAGACGAACTTGGAAATCATTATTCTAGTAGGC
ACGGCGGTGATTGCCATGTTCTTCTGGCTACTTCTTGTCATCATCCTACGGACCGTTAAGCGGGCCAATG
GAGGGGAACTGAAGACAGGCTACTTGTCCATCGTCATGGATCCAGATGAACTCCCATTGGATGAACATTG
TGAACGACTGCCTTATGATGCCAGCAAATGGGAATTCCCCAGAGACCGGCTGAAGCTAGGTAAGCCTCTT
GGCCGTGGTGCCTTTGGCCAAGTGATTGAAGCAGATGCCTTTGGAATTGACAAGACAGCAACTTGCAGGA
CAGTAGCAGTCAAAATGTTGAAAGAAGGAGCAACACACAGTGAGCATCGAGCTCTCATGTCTGAACTCAA
GATCCTCATTCATATTGGTCACCATCTCAATGTGGTCAACCTTCTAGGTGCCTGTACCAAGCCAGGAGGG
CCACTCATGGTGATTGTGGAATTCTGCAAATTTGGAAACCTGTCCACTTACCTGAGGAGCAAGAGAAATG

AATTTGTCCCCTACAAGACCAAAGGGGCACGATTCCGTCAAGGGAAAGACTACGTTGGAGCAATCCCTGT
GGATCTGAAACGGCGCTTGGACAGCATCACCAGTAGCCAGAGCTCAGCCAGCTCTGGATTTGTGGAGGAG
AAGTCCCTCAGTGATGTAGAAGAAGAGGAAGCTCCTGAAGATCTGTATAAGGACTTCCTGACCTTGGAGC
ATCTCATCTGTTACAGCTTCCAAGTGGCTAAGGGCATGGAGTTCTTGGCATCGCGAAAGTGTATCCACAG
GGACCTGGCGGCACGAAATATCCTCTTATCGGAGAAGAACGTGGTTAAAATCTGTGACTTTGGCTTGGCC
CGGGATATTTATAAAGATCCAGATTATGTCAGAAAAGGAGATGCTCGCCTCCCTTTGAAATGGATGGCCC
CAGAAACAATTTTTGACAGAGTGTACACAATCCAGAGTGACGTCTGGTCTTTTGGTGTTTTGCTGTGGGA
AATATTTTCCTTAGGTGCTTCTCCATATCCTGGGGTAAAGATTGATGAAGAATTTTGTAGGCGATTGAAA
GAAGGAACTAGAATGAGGGCCCCTGATTATACTACACCAGAAATGTACCAGACCATGCTGGACTGCTGGC
ACGGGGAGCCCAGTCAGAGACCCACGTTTTCAGAGTTGGTGGAACATTTGGGAAATCTCTTGCAAGCTAA
TGCTCAGCAGGATGGCAAAGACTACATTGTTCTTCCGATATCAGAGACTTTGAGCATGGAAGAGGATTCT
GGACTCTCTCTGCCTACCTCACCTGTTTCCTGTATGGAGGAGGAGGAAGTATGTGACCCCAAATTCCATT
ATGACAACACAGCAGGAATCAGTCAGTATCTGCAGAACAGTAAGCGAAAGAGCCGGCCTGTGAGTGTAAA
AACATTTGAAGATATCCCGTTAGAAGAACCAGAAGTAAAAGTAATCCCAGATGACAACCAGACGGACAGT
GGTATGGTTCTTGCCTCAGAAGAGCTGAAAACTTTGGAAGACAGAACCAAATTATCTCCATCTTTTGGTG
GAATGGTGCCCAGCAAAAGCAGGGAGTCTGTGGCATCTGAAGGCTCAAACCAGACAAGCGGCTACCAGTC
CGGATATCACTCCGATGACACAGACACCACCGTGTACTCCAGTGAGGAAGCAGAACTTTTAAAGCTGATA
GAGATTGGAGTGCAAACCGGTAGCACAGCCCAGATTCTCCAGCCTGACTCGGGGACCACACTGAGCTCTC
CTCCTGTTTAA, **disclosed as SEQ ID NO:1.**

16. A purified human KDR protein which consists of the amino acid sequence

MESKVLLAVALWLCVETRAASVGLPSVSLDLPRLSIQKDILTIKANTTLQITCRGQRDLDWLWPNNQSG
SEQRVEVTECSDGLFCKTLTIPKVIGNDTGAYKCFYRETDLASVIYVYVQDYRSPFIASVSDQHGVVYI
TENKNKTVVIPCLGSISNLNVSLCARYPEKRFVPDGNRISWDSKKGFTIPSYMISYAGMVFCEAKINDE
SYQSIMYIVVVVGYRIYDVVLSPSHGIELSVGEKLVLNCTARTELNVGIDFNWEYPSSKHQHKKLVNRD
LKTQSGSEMKKFLSTLTIDGVTRSDQGLYTCAASSGLMTKKNSTFVRVHEKPFVAFGSGMESLVEATVG
ERVRIPAKYLGYPPPEIKWYKNGIPLESNHTIKAGHVLTIMEVSERDTGNYTVILTNPISKEKQSHVVS
LVVYVPPQIGEKSLISPVDSYQYGTTQTLTCTVYAIPPPHHIHWYWQLEEECANEPSQAVSVTNPYPCE
EWRSVEDFQGGNKIEVNKNQFALIEGKNKTVSTLVIQAANVSALYKCEAVNKVGRGERVISFHVTRGPE
ITLQPDMQPTEQESVSLWCTADRSTFENLTWYKLGPQPLPIHVGELPTPVCKNLDTLWKLNATMFSNST
NDILIMELKNASLQDQGDYVCLAQDRKTKKRHCVVRQLTVLERVAPTITGNLENQTTSIGESIEVSCTA
SGNPPPQIMWFKDNETLVEDSGIVLKDGNRNLTIRRVRKEDEGLYTCQACSVLGCAKVEAFFIIEGAQE
KTNLEIIILVGTAVIAMFFWLLLVIILRTVKRANGGELKTGYLSIVMDPDELPLDEHCERLPYDASKWE
FPRDRLKLGKPLGRGAFGQVIEADAFGIDKTATCRTVAVKMLKEGATHSEHRALMSELKILIHIGHHLN
VVNLLGACTKPGGPLMVIVEFCKFGNLSTYLRSKRNEFVPYKTKGARFRQGKDYVGAIPVDLKRRLDSI

TSSQSSASSGFVEEKSLSDVEEEEAPEDLYKDFLTLEHLICYSFQVAKGMEFLASRKCIHRDLAARNILLSEKNVVKICDFGLARDIYKDPDYVRKGDARLPLKWMAPETIFDRVYTIQSDVWSFGVLLWEIFSLGASPYPGVKIDEEFCRRLKEGTRMRAPDYTTPEMYQTMLDCWHGEPSQRPTFSELVEHLGNLLQANAQQDGKDYIVLPISETLSMEEDSGLSLPTSPVSCMEEEEVCDPKFHYDNTAGISQYLQNSKRKSRPVSVKTFEDIPLEEPEVKVIPDDNQTDSGMVLASEELKTLEDRTKLSPSFGGMVPSKSRESVASEGSNQTSGYQSGYHSDDTDTTVYSSEEAELLKLIEIGVQTGSTAQILQPDSGTTLSSPPV, as set forth in three letter abbreviation in SEQ ID NO:2 and containing amino acid residues selected from the group consisting of Val at position 848, Glu at position 498, Ala at position 772, Arg at position 787, Lys at position 835 and Ser at position 1347.

17. The purified human KDR protein of claim 16 as set forth in SEQ ID NO:2.

18. A process for the expression of a human KDR protein in a recombinant host cell, comprising:

(a) transfecting the expression vector of claim 3 into a suitable host cell; and,

(b) culturing the host cells of step (a) under conditions which allow expression of the human KDR protein from the expression vector.

19. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 15.

20. A purified nucleic acid molecule encoding an intracellular portion of a human KDR protein which comprises from about amino acid 790 to about amino acid 1356 as set forth in SEQ ID NO: 2, wherein position 848 is a valine residue.

21. A purified nucleic acid molecule of claim 20 encoding an intracellular portion of a human KDR protein which comprises from about amino acid 790 to about amino acid 1356 as set forth in SEQ ID NO:

2, wherein position 772 is an alanine residue, position 787 is an arginine residue, position 835 is a lysine residue, position 848 is a valine residue and position 1347 is a serine residue.

22. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 20.

23. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 21.

24. A purified protein fragment which is an intracellular portion of a human KDR protein, comprising from about amino acid 790 to about amino acid 1356 as set forth in SEQ ID NO: 2, wherein position 848 is a valine residue.

25. A purified protein fragment of claim 24 which comprises from about amino acid 790 to about amino acid 1356 as set forth in SEQ ID NO: 2, wherein position 772 is an alanine residue, position 787 is an arginine residue, position 835 is a lysine residue, position 848 is a valine residue and position 1347 is a serine residue.

26. A purified nucleic acid molecule encoding an soluble KDR fusion protein which comprises from about amino acid 790 to about amino acid 1356 of human KDR as set forth in SEQ ID NO: 2, wherein position 848 is a valine residue.

27. A purified nucleic acid molecule of claim 26 wherein said KDR fusion protein comprises from about amino acid 790 to about amino acid 1356 as set forth in SEQ ID NO: 2, position 772 being an alanine residue, position 787 being an arginine residue, position 835 being a lysine residue, position 848 being a valine residue and position 1347 being a serine residue.

28. A purified nucleic acid molecule of claim 27 which encodes GST-KDR.

29. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 26.

30. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 27.

31. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 28.

32. A purified KDR fusion protein which is characterized by an intracellular portion of a human KDR protein, comprising from about amino acid 790 to about amino acid 1356 as set forth in SEQ ID NO: 2, wherein position 848 is a valine residue.

33. A purified KDR fusion protein of claim 32 which comprises from about amino acid 790 to about amino acid 1356 as set forth in SEQ ID NO: 2, wherein position 772 is an alanine residue, position 787 is an arginine residue, position 835 is a lysine residue, position 848 is a valine residue and position 1347 is a serine residue.

34. The purified KDR fusion protein of claim 33 which is GST-KDR.

35. A purified nucleic acid molecule encoding an extracellular portion of a human KDR protein which comprises from about amino acid 1 to about amino acid 644 as set forth in SEQ ID NO:2, wherein position 498 is a glutamic acid residue.

36. An expression vector for the expression of a human KDR protein in a recombinant host cell wherein said expression vector comprises the DNA molecule of claim 36.

37. A purified protein fragment which is an extracellular portion of a human KDR protein, comprising from about amino acid 1 to about amino acid 790 as set forth in SEQ ID NO: 2, wherein position 498 is a glutamic acid residue, position 772 is an alanine residue and position 787 is an arginine residue.

38. An isolated nucleic acid molecule of claim 20 wherein a termination codon is inserted such that the KDR open reading frame terminates at about Tyr 1175.

39. An isolated nucleic acid of claim 38 which is contained within a DNA vector, pBlueBacHis2B.

40. The DNA vector of claim 39 which is pBBH-KDR-1.

41. A method of selecting a compound which antagonizes human KDR which comprises a biological assay wherein a test compound is added in combination with a KDR protein or protein fragment and a substrate, said substrate being involved in a measurable interaction at a domain of interest within wild-type KDR such that a compound antagonist interacts with said KDR protein, resulting in a measurable decrease in KDR:substrate activity.

42. A method of claim 41 wherein said KDR protein is GST/KDR-1.

43. A method of claim 42 wherein said substrate is pEY.

44. A method of selecting a compound which is an agonist of human KDR which comprises a biological assay wherein a test compound is added in combination with a KDR protein or protein fragment and a substrate, said substrate being involved in a measurable

interaction at a domain of interest within wild-type KDR such that a compound antagonist interacts with said KDR protein, resulting in a measurable increase in KDR:substrate activity.

45. A method of claim 44 wherein said KDR protein is GST/KDR-1.

46. A method of claim 45 wherein said substrate is pEY.